



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

centre of the bottom (see Figure 3) and built up by winding a strip of clay spirally until the rim was finished. Two ornamental rosettes of clay were placed near the rim in lieu of handles. Figures 3 *a*, 3 *b*, 3 *c*, 3 *d*, and Figures 2 and 2 *a* are other styles of indented ware. Figure 4 is a reconstructed bowl painted on both sides, and is an excellent example of careful workmanship. Figures 5, 5 *a*, and 5 *b* are other samples of ornamentation. Figure 6 shows another mug, slightly different from Figures 2, 3, and 11 of Plate IX. It has curved sides and a differently shaped handle. Figure 7 Mr. Holmes supposed to be a pipe, two inches in length. Figure 9 is a small clay ladle, and such utensils seem to have been numerous. I picked up one whose bowl was about two and a half inches in diameter, but the handle was wanting.

Different, peculiar, and interesting forms of this fragmentary ware might be described sufficient to fill a volume, but those already given will suffice to convey a general idea of the more important features of the ancient plastic art of this section.

I am indebted to Prof. F. V. Hayden for the use of Plates IX., X., XI., from Bulletin Vol. II., No. 1, Geological and Geographical Survey of the Territories. The majority of the original specimens here figured are at present in the collection of Professor S. S. Haldeman, by whom they will probably be placed in the museum of the Academy of Natural Sciences of Philadelphia, at no very distant day.

EXPLANATION OF PLATES VII., VIII., AND XII.

Plate VII. Figure 1. Rude representation of the Rocky Mountain sheep or goat on ancient pottery. Figure 2. Pottery showing orifices bored with a rimmer. Figure 3. Horizontal mouth of a jar. Figure 4. Jar-lid. Figure 5. Top of lid. Figure 6. Top of lid. Figure 7. Top of lid. Figure 8. Neck and handle combined.

Plate VIII. Figure 2. Owl's-head handle. Figures 3-8. Curved and straight handles. Figure 9. Ancient jar reconstructed. Figure 10. Portion of a dipper. Figure 11. A rare pattern. Figure 12. Bottom of indented vessel.

Plate XII. Figures 1, 2. Fragmentary ware. Figures 3, 4. From the bottoms of vessels. Figures 5, 6, 7, and 8. From the rims of vessels. All three fifths natural size.

A NEW CALIFORNIAN DEER.

BY HON. J. D. CATON.

IN a recent visit to California I met with a new variety of deer (*Cervus macrotis*, var. *Californicus*), a description of which may be interesting to the naturalist; I say new because I find it nowhere mentioned in print, nor could I learn that hunters or sportsmen had observed its peculiarities.

Before my arrival at Santa Barbara the fame of Mr. Frost, the leading merchant of the place, as a deer-hunter, had reached me, and soon after my arrival I made his acquaintance and inquired concerning the deer of the vicinity. He showed me many interesting specimens of antlers, a few dried skins, and a last year's fawn in domestication, but unfortunately the tail of the latter had been bitten off by a mule.

I saw at once that we had something I had never met before or seen described. I expressed a strong desire for an opportunity to study it further, when Mr. Frost invited me to join him in an excursion to the mountains to procure a specimen, which of course I gladly accepted. At six o'clock on Tuesday morning, the 21st of March, he drove up to my hotel, accompanied by Mr. Miller, another merchant of Santa Barbara, no less fond of the chase, the wagon stored with every convenience for camp life. We followed up the coast forty miles to Gaviota, where we crossed the Coast Range through the Gaviota Pass, the summit of which I found to be one thousand and fifty feet above the sea, and made camp in a secluded valley, among abrupt hills varying in height from one hundred to four hundred feet. Some of these were covered with wild oats to their very summits, while others were clothed with open, park-like live-oaks, or dense chaparral. The afternoon was spent in making camp, observing the character of the country, and listening to the love notes of the great flocks of quail (*Lophortyx Californicus*), whose breeding season was about to commence.

Next morning by daylight coffee was drank, and the hunters were off to the hills. As the excursion was strictly for scientific purposes, it was understood that only bucks were to be shot at. By noon three specimens were brought into camp, which were all I desired, and afforded me every opportunity for a critical study.

I found them to be a very pronounced variety of *Cervus macrotis*. Of the species there could be no mistake. There was the large ear, the very large metatarsal gland, more than four times as large as on the black-tailed deer (*Cervus Columbianus*), and more than ten times as large as on the common deer (*Cervus Virginianus*), but above all the under side of the tail was naked to about the same extent as on the tail of the horse. Now this is a peculiarity not found on any other of the American deer, and I do not know that it is observed on any foreign species; and as it is as constant on this deer as on the horse, it becomes an impor-

tant specific character, and, had other important similitudes been wanting, would have gone far to identify the species. I will not stop to point out other features peculiar to *C. macrotis*, but will rather describe the differences between this variety and that found east of the Sierra Nevadas.

Those found in the low altitudes where we made our camp are hardly as large as those found on the high table-lands east of the Sierras and in the Rocky Mountains, but I learned that those found in the higher mountains, say five thousand feet or upwards above the sea, are very large. Mr. Frost once killed one in the high mountains which was believed to weigh four hundred pounds. This deer frequents higher altitudes than any other deer, being frequently found above the timber line. I have not the means of comparing those found at San Julian (that was the name of the ranch on which we made our camp) with any living on so low an altitude elsewhere. In color these deer had a decidedly more reddish shade than those east of the Sierras, much more approaching the color of *C. Columbianus*. Those, however, found in high altitudes were described as of the dull gray color of the eastern variety. On the mule deer (*Cervus macrotis*), there is a snow-white section which commences just above the root of the tail and extends down the buttock for several inches on each side to nearly the length of that member. This white section on the specimens of the California variety which I examined was not quite so extensive as on the eastern variety, though in all other respects they were identical. But the most marked distinction of this new variety was in the markings of the tail. On all the specimens I have examined or heard of east of the Sierras, the tail of *C. macrotis* is entirely white except a tuft of long hairs at the extremity, which is black. On all that I examined west of the Sierras a dark line extends down the upper side of the tail, and unites with the black tuft at the end. This line varied in depth of color on different specimens, but was always very distinctly present, never of a lighter color than on the back above, but frequently considerably darker as it approached the black tuft, always showing many tawny hairs, which in several specimens invaded the tuft at the extremity; this on the eastern variety is always entirely black, except in summer, when it sometimes fades to a reddish shade. It was this dark line down the upper side of the tail which first attracted my attention on the dried skins examined, and excited the suspicion that this might be a new species of deer, which, however, was at once dispelled

when I had opportunity for more careful examination. This mark, I learned from Mr. Frost and many others, is as constant on the large specimens found in the higher altitudes as on the smaller ones found at less elevations near the coast. It is uniform and constant, so far as I could learn, on all found west of the Sierras.

At first I suspected a relative of *C. Columbianus* rather than of *C. macrotis*, but when I observed that the dark line on top of the tail did not embrace more than one third of its circumference, while on the black-tailed deer all is colored except one quarter or one third on the under side, which is white, — in fact, that this is a white tail with a colored line on top, and the other is a black tail with a white line along the under side, — but above all, when I found the under side of the tail naked, while the tail of *C. Columbianus* is covered with a dense coat of hairs on the under side to the base, I saw at once it was no relative of the true black-tailed deer.

This was confirmed by observations made a few weeks later, when enjoying the hospitality of Mr. A. E. Kent, near San Rafael, north of San Francisco. Mr. Kent has a deer park inclosed in an admirable locality, and has in it four does and a buck, and felt sadly disappointed that the does had never bred. The first glance disclosed the cause of this sterility. The does were all of the true black-tailed deer, while the buck was of this new variety of the mule deer. When I pointed out the difference, he readily recognized it. The larger ears, the longer and coarser legs, the larger gland on the hind legs, and the difference in the form and color of the tail, were all very plain when pointed out, though he had not noticed them before, albeit there are but few if any more persistent deer-hunters in California, and none who have more carefully studied the habits of the deer in everything essential to the successful chase. Had the colored stripe on the upper side of the tail been wanting, as on the eastern variety, he would no doubt have observed the difference at once. The does were natives of the country north of him; the buck was presented to him by a friend, but he did not know whence he was procured; I expressed the opinion that he would on inquiry find that he came from the south, which he has since informed me was the case. I examined thirty or forty dried skins, the fruits of the chase by Mr. Kent, all procured north of San Francisco, along the Coast Range, within the distance of one hundred and fifty miles. Not one from a mule deer was found. All were from the black-tailed deer.

I lack the necessary information to enable me to determine the extent of the habitat of this variety of the mule deer. I think it safe to say that it predominates in the Coast Range south of Montera, and probably south of San Francisco, while it is rarely if ever met with in the Coast Range in California north of San Francisco. Good observers report *C. macrotis* in the Coast Range in Oregon, though of rather a small size, and I have most satisfactory evidence that it occurs abundantly in the Sierras in Northern California; but whether these are of the variety I have described I have no means of determining. I hope this article will induce naturalists and observers on the west coast to examine with critical care specimens from the various localities and let us have the result of their observations, so that this question may be determined. I expect that we shall find that the Sierras are the dividing line between the two varieties of *C. macrotis*.

I am informed by Professor Baird that the Smithsonian Institution some years since received several skins from Cape St. Lucas, of a very small variety of *C. macrotis* inhabiting the peninsula of California, with spike antlers, which were said to be fully adult, and not yearlings with dag antlers. Those skins were unfortunately destroyed, so that I could not examine them. I have thus far failed in my efforts to procure specimens from that locality. Mr. Burton, of Santa Barbara, who forty years ago hunted the sea otter along that coast, informed me that he found a very small variety of deer quite abundant on the island of Santa Margarita, off the coast of Southern California; but he could not describe it except that it was of diminutive size and quite abundant.

As soon as the deer reached camp I selected a fair specimen, a buck, which I judged to be four years old, and prepared the skin and necessary parts of the skeleton for mounting. This I subsequently sent to the Smithsonian Institution. Professor Baird has expressed much interest about it, and assured me that it would be mounted and added to the collection of American quadrupeds at the Centennial, where those who take an interest in these studies may examine and compare it with others.

After our work was done we enjoyed a most leisurely feast of venison prepared in all the different modes most approved in camp, sweetened by long absence and hard toil. After a late breakfast the next morning, in which venison was again most prominent, we leisurely broke camp and I bade farewell to one of the sweetest nooks for such a purpose I have ever seen. The

rank wild oats which formed our beds, the bowers of flowering shrubs which loaded the air with a rich perfume, the music of the mountain brook which went dancing down near by on its way to the great Pacific, soothed to sleep at night and bade a pleasant welcome in the morning.

A NEGLECTED NATURALIST.

BY HERBERT E. COPELAND, M. S.

TO many of the untiring naturalists who fifty years ago accepted the perils and privations of the far West, to collect and describe its animals and plants, we have given the only reward they sought — a grateful remembrance of their work. Audubon died full of riches and honor, with the knowledge that his memory would be cherished so long as birds should sing. Wilson is “the Father of American Ornithology,” and his mistakes and faults are forgotten in our admiration of his great achievements. Le Sueur is remembered as “the first to explore the ichthyology of the Great American Lakes.” Laboring with them, and greatest of them all in respect to the extent and range of his accomplishments, was one whose name has nearly been forgotten, and is oftenest mentioned, in the field of his best labors, with pity or contempt.

The early field-naturalists had very imperfect conceptions of the relationship existing between closely allied forms, — for the necessary comparison can be made only after the accumulation of more specimens than are ever collected by one man, — and they therefore described as “species” forms due to geographical influences or individual peculiarities. Who among them erred most in this direction cannot yet be determined, for our own knowledge is too imperfect, a fact readily appreciated by those who have followed scientific thought at all closely for the last few years. We may, therefore, now pass judgment only on the honesty and truthfulness of these investigators, and for this we have two sources of evidence: first, the testimony of contemporaries; second, the testimony of their work. On the first head we have in regard to the subject of this sketch, the most emphatic statements from his friends and co-laborers, Swainson and Audubon. If there be anything recorded against the integrity of his intentions, diligent research has failed to reveal it to me. It is my present purpose to present an outline of his work, for the consideration of the candid reader.